

09/806767

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## SEQUENCE LISTING

&lt;110&gt; Max-Planck-Gesellschaft zur Förderung der Wissenschaften e.V.

<120> Means and methods for modulating stomata  
characteristica in plants

&lt;130&gt; C1748PCT

&lt;140&gt;

&lt;141&gt;

&lt;160&gt; 61

&lt;170&gt; PatentIn Ver. 2.1

&lt;210&gt; 1

&lt;211&gt; 2328

&lt;212&gt; DNA

&lt;213&gt; Arabidopsis thaliana

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(2325)

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 Gly Ala Ile Ile Gly Val Leu Asp Thr Gly Ile Trp Pro Glu Ser Pro  
 195 200 205  
 Ser Phe Val Asp His Gly Met Ser Pro Ile Pro Lys Lys Trp Lys Gly  
 210 215 220

Xaa Cys Gln Glu Gly Lys Asn Phe Asn Ser Ser Ser Cys Asn Arg Lys  
 225 230 235 240  
 Leu Ile Gly Ala Arg Phe Phe Gln Ile Gly His Met Met Ala Ser Lys  
 245 250 255  
 Thr Ser Lys Ser Ile Asp Phe Met Glu Asp Tyr Val Ser Pro Arg Asp  
 260 265 270  
 Ser Gln Gly His Gly Thr His Thr Ala Ser Thr Ala Gly Gly Ala Pro  
 275 280 285  
 Val Pro Met Ala Ser Val Leu Gly Asn Gly Ala Gly Glu Ala Arg Gly  
 290 295 300  
 Met Ala Pro Gly Ala His Ile Ala Ile Tyr Lys Val Cys Trp Ser Ser  
 305 310 315 320  
 Gly Cys Tyr Ser Ser Asp Ile Leu Ala Ala Met Asp Val Ala Ile Arg  
 325 330 335  
 Asp Gly Val Asp Ile Leu Ser Leu Ser Ile Gly Gly Phe Pro Val Pro  
 340 345 350  
 Leu Tyr Glu Asp Thr Ile Ala Ile Gly Ser Phe Arg Ala Met Glu Arg  
 355 360 365  
 Gly Ile Ser Val Ile Cys Ala Ala Gly Asn Asn Gly Pro Ile Leu Ser  
 370 375 380  
 Ser Val Ala Asn Glu Ala Pro Trp Ile Ala Thr Ile Gly Ala Ser Thr  
 385 390 395 400  
 Leu Asp Arg Lys Phe Pro Ala Ile Ile Gln Leu Gly Asn Gly Lys Tyr  
 405 410 415  
 Val Tyr Gly Glu Ser Leu Tyr Pro Gly Lys Gln Val His Asn Ser Gln  
 420 425 430  
 Lys Val Leu Glu Ile Val Tyr Leu Asn Asp Gly Asp Asn Gly Ser Glu  
 435 440 445  
 Phe Cys Leu Arg Gly Ser Leu Pro Arg Ala Lys Val His Gly Lys Ile  
 450 455 460  
 Val Val Cys Asp Arg Gly Val Asn Gly Arg Ala Glu Lys Gly Gln Val  
 465 470 475 480  
 Val Lys Glu Ser Gly Gly Val Ala Met Ile Leu Ala Asn Thr Ala Val  
 485 490 495  
 Asn Met Glu Glu Asp Ser Val Asp Val His Val Leu Pro Ala Thr Leu  
 500 505 510  
 Ile Gly Phe Asp Glu Ser Ile Gln Leu Gln Ser Tyr Met Asn Ser Thr  
 515 520 525  
 Arg Lys Pro Thr Ala Arg Ile Ile Phe Gly Gly Thr Val Ile Gly Lys  
 530 535 540  
 Ser Ser Ala Pro Ala Val Ala Gln Phe Ser Ser Arg Gly Pro Ser Phe  
 545 550 555 560

Thr Asp Pro Ser Ile Leu Lys Pro Asp Val Ile Ala Pro Gly Val Asn  
 565 570 575  
 Ile Ile Ala Ala Trp Pro Gln Asn Leu Gly Pro Ser Gly Leu Ala Glu  
 580 585 590  
 Asp Ser Arg Arg Val Asn Phe Thr Val Leu Ser Gly Thr Ser Met Ala  
 595 600 605  
 Cys Pro His Val Ser Gly Ile Ala Ala Leu Leu His Ser Ile His Pro  
 610 615 620  
 Lys Trp Ser Pro Ala Ala Ile Lys Ser Ala Leu Met Thr Thr Ala Asp  
 625 630 635 640  
 Thr Thr Asn His Gln Gly Lys Pro Ile Met Asp Gly Asp Thr Arg Ala  
 645 650 655  
 Gly Leu Phe Ala Ile Gly Ala Gly His Val Asn Pro Gly Arg Ser Asp  
 660 665 670  
 Asp Pro Gly Leu Ile Tyr Asp Ile Asn Ala Asn Asp Tyr Ile Thr His  
 675 680 685  
 Leu Cys Thr Ile Gly Tyr Lys Asn Ser Glu Ile Leu Ser Ile Thr His  
 690 695 700  
 Lys Asn Val Ser Cys His Asp Val Leu Gln Lys Asn Arg Gly Phe Ser  
 705 710 715 720  
 Leu Asn Tyr Pro Ser Ile Ser Val Ile Phe Lys Ala Gly Lys Thr Arg  
 725 730 735  
 Lys Met Ile Thr Arg Arg Val Thr Asn Val Gly Ser Pro Asn Ser Ile  
 740 745 750  
 Tyr Ser Val Glu Ile Val Ala Pro Glu Gly Val Lys Val Arg Val Lys  
 755 760 765  
 Pro Arg Arg Leu Val Phe Lys His Val Asn Gln Ser Leu Ser Tyr Arg  
 770 775 780  
 Val Trp Phe Ile Ser Arg Lys Arg Ile Gly Thr Gln Arg Arg Ser Phe  
 785 790 795 800  
 Ala Glu Gly Gln Leu Met Trp Ile Asn Ser Arg Asp Lys Tyr Gln Lys  
 805 810 815  
 Val Arg Ser Pro Ile Ser Val Ala Trp Ala Ser Lys Lys  
 820 825

&lt;210&gt; 9

&lt;211&gt; 2492

&lt;212&gt; DNA

&lt;213&gt; Solanum tuberosum

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (3)..(2489)

&lt;400&gt; 9

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Ile Leu Phe Asn Pro Phe Lys Tyr Pro His Gln Ile Ile Ser Thr	
1 5 10 15	
aac att cca tta ttc aac ttc aaa tat aat tca atg gaa ctc aat ttc	95
Asn Ile Pro Leu Phe Asn Phe Lys Tyr Asn Ser Met Glu Leu Asn Phe	
20 25 30	
caa ttc tat ttt ctc tgt ttt cta ctc tgt ttt att ccc ctg cta caa	143
Gln Phe Tyr Phe Leu Cys Phe Leu Leu Cys Phe Ile Pro Leu Leu Gln	
35 40 45	
gct caa aat ttg caa act tat ata gta caa tta cat cca caa cat gca	191
Ala Gln Asn Leu Gln Thr Tyr Ile Val Gln Leu His Pro Gln His Ala	
50 55 60	
tca aca aga acc cct ttt agt tct aaa ttt cag tgg cac ctt tca ttt	239
Ser Thr Arg Thr Pro Phe Ser Ser Lys Phe Gln Trp His Leu Ser Phe	
65 70 75	
ctt gaa aat ttc aca aac att cca tta ttc aac ttc aaa tat att caa	287
Leu Glu Asn Phe Thr Asn Ile Pro Leu Phe Asn Phe Lys Tyr Ile Gln	
80 85 90 95	
tgg aac tca att cca att cta ttt ctc tgt ttc tac tct gtt tat tcc	335
Trp Asn Ser Ile Pro Ile Leu Phe Leu Cys Phe Tyr Ser Val Tyr Ser	
100 105 110	
cct gct aca agc att tcc tca ggt gaa aac tcg agt tct cgc ctt ttg	383
Pro Ala Thr Ser Ile Ser Ser Gly Glu Asn Ser Ser Ser Arg Leu Leu	
115 120 125	
tac tct tac cat tct gca ttt gaa ggt ttt gca gca ctt cta tct gaa	431
Tyr Ser Tyr His Ser Ala Phe Glu Gly Phe Ala Ala Leu Leu Ser Glu	
130 135 140	
aat gag cta aag gca ctg aag aaa tcg aat aat gtg tta tca ata tat	479
Asn Glu Leu Lys Ala Leu Lys Lys Ser Asn Asn Val Leu Ser Ile Tyr	
145 150 155	
ccg gag agg aag ctt gag gtt caa aca act tat tct tac aag ttc tta	527
Pro Glu Arg Lys Leu Glu Val Gln Thr Thr Tyr Ser Tyr Lys Phe Leu	
160 165 170 175	
gga ctt agt cct aca aag gaa ggt act tgg tta aag tct gga ttt ggt	575
Gly Leu Ser Pro Thr Lys Glu Gly Thr Trp Leu Lys Ser Gly Phe Gly	
180 185 190	
cga gcc gcg atc att gga gtt ctt gat act gga att tgg cca gaa agt	623
Arg Gly Ala Ile Ile Gly Val Leu Asp Thr Gly Ile Trp Pro Glu Ser	
195 200 205	
cca agt ttt gtt gat cat gga atg tct cct att cca aag aaa tgg aaa	671
Pro Ser Phe Val Asp His Gly Met Ser Pro Ile Pro Lys Lys Trp Lys	
210 215 220	
ggt ntc tgc caa gaa gga aaa aac ttc aat tct tca agt tgc aat cgc	719
Gly Xaa Cys Gln Glu Gly Lys Asn Phe Asn Ser Ser Ser Cys Asn Arg	
225 230 235	
aag ctt att ggt gca agg ttt ttc cag ata gga cac atg atg gca tca	767
Lys Leu Ile Gly Ala Arg Phe Phe Gln Ile Gly His Met Met Ala Ser	
240 245 250 255	

aag aca tca aaa tca ata gat ttt atg gag gat tat gta tca cct cga 815  
 Lys Thr Ser Lys Ser Ile Asp Phe Met Glu Asp Tyr Val Ser Pro Arg  
 260 265 270

gat tct caa ggc cat ggt aca cat aca gca tct act gca ggg gga gct 863  
 Asp Ser Gln Gly His Gly Thr His Thr Ala Ser Thr Ala Gly Gly Ala  
 275 280 285

ccc gtt cca atg gcg agt gtg ctt gga aat gga gca gga gag gct cga 911  
 Pro Val Pro Met Ala Ser Val Leu Gly Asn Gly Ala Gly Glu Ala Arg  
 290 295 300

ggg atg gcc cct ggt gct cat atc gcg ata tac aaa gtt tgt tgg tct 959  
 Gly Met Ala Pro Gly Ala His Ile Ala Ile Tyr Lys Val Cys Trp Ser  
 305 310 315

agt ggt tgt tat agt tct gat ata ctt gca gca atg gat gta gct att 1007  
 Ser Gly Cys Tyr Ser Ser Asp Ile Leu Ala Ala Met Asp Val Ala Ile  
 320 325 330 335

aga gat gga gta gac ata ttg tct ctt tca att ggt ggt ttc cct gtt 1055  
 Arg Asp Gly Val Asp Ile Leu Ser Leu Ser Ile Gly Gly Phe Pro Val  
 340 345 350

cca ctt tat gag gat act att gct att ggc agt ttt cga gct atg gaa 1103  
 Pro Leu Tyr Glu Asp Thr Ile Ala Ile Gly Ser Phe Arg Ala Met Glu  
 355 360 365

cgt gga att tca gtt ata tgt gct gca gga aat aat ggt cca att cta 1151  
 Arg Gly Ile Ser Val Ile Cys Ala Ala Gly Asn Asn Gly Pro Ile Leu  
 370 375 380

agt tca gta gca aat gag gct cct tgg att gcc act att ggt gct agc 1199  
 Ser Ser Val Ala Asn Glu Ala Pro Trp Ile Ala Thr Ile Gly Ala Ser  
 385 390 395

aca ctt gac agg aaa ttt cca gca ata att cag cta ggt aat ggc aag 1247  
 Thr Leu Asp Arg Lys Phe Pro Ala Ile Ile Gln Leu Gly Asn Gly Lys  
 400 405 410 415

tat gtg tat gga gaa tcc ttg tac ccg ggc aaa caa gtt cat aat tct 1295  
 Tyr Val Tyr Gly Glu Ser Leu Tyr Pro Gly Lys Gln Val His Asn Ser  
 420 425 430

cag aaa gtt ctt gag att gtt tat ctc aat gac ggt gat aat gga agt 1343  
 Gln Lys Val Leu Glu Ile Val Tyr Leu Asn Asp Gly Asp Asn Gly Ser  
 435 440 445

gaa ttt tgc tta aga ggg tct ctg cca aga gct aaa gtc cat gga aaa 1391  
 Glu Phe Cys Leu Arg Gly Ser Leu Pro Arg Ala Lys Val His Gly Lys  
 450 455 460

atc gtt gta tgt gat cgt gga gtt aat gga aga gca gag aaa ggt caa 1439  
 Ile Val Val Cys Asp Arg Gly Val Asn Gly Arg Ala Glu Lys Gly Gln  
 465 470 475

gtt gtt aaa gaa tca ggt ggt gtt gcc atg atc cta gca aat aca gca 1487  
 Val Val Lys Glu Ser Gly Gly Val Ala Met Ile Leu Ala Asn Thr Ala  
 480 485 490 495

gta aat atg gag gaa gat tct gtg gac gta cat gtc cta cct gca aca 1535  
 Val Asn Met Glu Glu Asp Ser Val Asp Val His Val Leu Pro Ala Thr

500	505	510	
ttg att ggt ttt gac gaa tca att cag ttg caa agc tat atg aac tca Leu Ile Gly Phe Asp Glu Ser Ile Gln Leu Gln Ser Tyr Met Asn Ser 515 520 525			1583
acg cga aaa cca aca gct cga atc ata ttt gga gga aca gtt ata gga Thr Arg Lys Pro Thr Ala Arg Ile Ile Phe Gly Gly Thr Val Ile Gly 530 535 540			1631
aaa tct agt gca cct gct gta gca caa ttt tct tca agg ggt cca agt Lys Ser Ser Ala Pro Ala Val Ala Gln Phe Ser Ser Arg Gly Pro Ser 545 550 555			1679
ttt act gat cct tca att ctc aaa cct gat gtg att gct cca ggt gtc Phe Thr Asp Pro Ser Ile Leu Lys Pro Asp Val Ile Ala Pro Gly Val 560 565 570 575			1727
aac ata att gct gct tgg ccg caa aat cta ggt cct agt ggc ctg gct Asn Ile Ile Ala Ala Trp Pro Gln Asn Leu Gly Pro Ser Gly Leu Ala 580 585 590			1775
gag gat tca aga aga gta aac ttc act gtc tta tca gga act tca atg Glu Asp Ser Arg Arg Val Asn Phe Thr Val Leu Ser Gly Thr Ser Met 595 600 605			1823
gct tgt cct cat gtt agt ggc att gct gca cta ctc cat tca att cat Ala Cys Pro His Val Ser Gly Ile Ala Ala Leu Leu His Ser Ile His 610 615 620			1871
cct aaa tgg tca cca gct gca atc aaa tcc gcg cta atg aca act gca Pro Lys Trp Ser Pro Ala Ala Ile Lys Ser Ala Leu Met Thr Thr Ala 625 630 635			1919
gac aca aca aac cac caa gga aaa cca atc atg gat ggt gac aca cga Asp Thr Thr Asn His Gln Gly Lys Pro Ile Met Asp Gly Asp Thr Arg 640 645 650 655			1967
gct gga ctt ttc gcc ata gga gct gga cat gta aat cct gga aga tcc Ala Gly Leu Phe Ala Ile Gly Ala Gly His Val Asn Pro Gly Arg Ser 660 665 670			2015
gat gat ccc gga ttg ata tat gac att aat gca aat gac tat atc act Asp Asp Pro Gly Leu Ile Tyr Asp Ile Asn Ala Asn Asp Tyr Ile Thr 675 680 685			2063
cac ctt tgc act att ggt tac aaa aac tct gaa atc ctc agc att act His Leu Cys Thr Ile Gly Tyr Lys Asn Ser Glu Ile Leu Ser Ile Thr 690 695 700			2111
cac aag aat gtt agc tgc cac gac gtt tta cag aaa aac agg ggt ttt His Lys Asn Val Ser Cys His Asp Val Leu Gln Lys Asn Arg Gly Phe 705 710 715			2159
agt ctc aat tac ccc tct att tcc gta atc ttt aag gca gga aaa acg Ser Leu Asn Tyr Pro Ser Ile Ser Val Ile Phe Lys Ala Gly Lys Thr 720 725 730 735			2207
aga aaa atg atc aca agg aga gtg aca aat gtg ggg agt cct aat tca Arg Lys Met Ile Thr Arg Arg Val Thr Asn Val Gly Ser Pro Asn Ser 740 745 750			2255
atc tac tca gtt gaa att gtg gca cca gaa gga gtt aaa gtg aga gtt			2303

Ile Tyr Ser Val Glu Ile Val Ala Pro Glu Gly Val Lys Val Arg Val  
755 760 765

aaa ccg cga cgt ctg gta ttt aaa cat gtt aat caa agt tta agt tac 2351  
Lys Pro Arg Arg Leu Val Phe Lys His Val Asn Gln Ser Leu Ser Tyr  
770 775 780

aga gtt tgg ttt ata tca agg aag aga att ggg act caa agg aga agc 2399  
Arg Val Trp Phe Ile Ser Arg Lys Arg Ile Gly Thr Gln Arg Arg Ser  
785 790 795

ttt gca gaa gga caa ttg atg tgg atc aac tcc aga gat aaa tac cag 2447  
Phe Ala Glu Gly Gln Leu Met Trp Ile Asn Ser Arg Asp Lys Tyr Gln  
800 805 810 815

aaa gtt aga agt cct att tca gtt gca tgg gca tca aag aag tga 2492  
Lys Val Arg Ser Pro Ile Ser Val Ala Trp Ala Ser Lys Lys  
820 825

<210> 10

<211> 829

<212> PRT

<213> Solanum tuberosum

<400> 10

Ile Leu Phe Asn Pro Phe Lys Tyr Pro His Gln Ile Ile Ser Thr Asn  
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Ile Pro Leu Phe Asn Phe Lys Tyr Asn Ser Met Glu Leu Asn Phe Gln  
20 25 30

Phe Tyr Phe Leu Cys Phe Leu Leu Cys Phe Ile Pro Leu Leu Gln Ala  
35 40 45

Gln Asn Leu Gln Thr Tyr Ile Val Gln Leu His Pro Gln His Ala Ser  
50 55 60

Thr Arg Thr Pro Phe Ser Ser Lys Phe Gln Trp His Leu Ser Phe Leu  
65 70 75 80

Glu Asn Phe Thr Asn Ile Pro Leu Phe Asn Phe Lys Tyr Ile Gln Trp  
85 90 95

Asn Ser Ile Pro Ile Leu Phe Leu Cys Phe Tyr Ser Val Tyr Ser Pro  
100 105 110

Ala Thr Ser Ile Ser Ser Gly Glu Asn Ser Ser Ser Arg Leu Leu Tyr  
115 120 125

Ser Tyr His Ser Ala Phe Glu Gly Phe Ala Ala Leu Leu Ser Glu Asn  
130 135 140

Glu Leu Lys Ala Leu Lys Lys Ser Asn Asn Val Leu Ser Ile Tyr Pro  
145 150 155 160

Glu Arg Lys Leu Glu Val Gln Thr Thr Tyr Ser Tyr Lys Phe Leu Gly  
165 170 175

Leu Ser Pro Thr Lys Glu Gly Thr Trp Leu Lys Ser Gly Phe Gly Arg  
180 185 190

Gly Ala Ile Ile Gly Val Leu Asp Thr Gly Ile Trp Pro Glu Ser Pro

195					200					205					
Ser	Phe	Val	Asp	His	Gly	Met	Ser	Pro	Ile	Pro	Lys	Lys	Trp	Lys	Gly
210						215					220				
Xaa	Cys	Gln	Glu	Gly	Lys	Asn	Phe	Asn	Ser	Ser	Ser	Cys	Asn	Arg	Lys
225					230					235					240
Leu	Ile	Gly	Ala	Arg	Phe	Phe	Gln	Ile	Gly	His	Met	Met	Ala	Ser	Lys
				245					250					255	
Thr	Ser	Lys	Ser	Ile	Asp	Phe	Met	Glu	Asp	Tyr	Val	Ser	Pro	Arg	Asp
			260					265					270		
Ser	Gln	Gly	His	Gly	Thr	His	Thr	Ala	Ser	Thr	Ala	Gly	Gly	Ala	Pro
		275					280					285			
Val	Pro	Met	Ala	Ser	Val	Leu	Gly	Asn	Gly	Ala	Gly	Glu	Ala	Arg	Gly
	290					295					300				
Met	Ala	Pro	Gly	Ala	His	Ile	Ala	Ile	Tyr	Lys	Val	Cys	Trp	Ser	Ser
305					310					315					320
Gly	Cys	Tyr	Ser	Ser	Asp	Ile	Leu	Ala	Ala	Met	Asp	Val	Ala	Ile	Arg
				325					330					335	
Asp	Gly	Val	Asp	Ile	Leu	Ser	Leu	Ser	Ile	Gly	Gly	Phe	Pro	Val	Pro
		340					345						350		
Leu	Tyr	Glu	Asp	Thr	Ile	Ala	Ile	Gly	Ser	Phe	Arg	Ala	Met	Glu	Arg
		355					360					365			
Gly	Ile	Ser	Val	Ile	Cys	Ala	Ala	Gly	Asn	Asn	Gly	Pro	Ile	Leu	Ser
	370					375					380				
Ser	Val	Ala	Asn	Glu	Ala	Pro	Trp	Ile	Ala	Thr	Ile	Gly	Ala	Ser	Thr
385					390					395					400
Leu	Asp	Arg	Lys	Phe	Pro	Ala	Ile	Ile	Gln	Leu	Gly	Asn	Gly	Lys	Tyr
				405					410					415	
Val	Tyr	Gly	Glu	Ser	Leu	Tyr	Pro	Gly	Lys	Gln	Val	His	Asn	Ser	Gln
		420						425					430		
Lys	Val	Leu	Glu	Ile	Val	Tyr	Leu	Asn	Asp	Gly	Asp	Asn	Gly	Ser	Glu
		435					440					445			
Phe	Cys	Leu	Arg	Gly	Ser	Leu	Pro	Arg	Ala	Lys	Val	His	Gly	Lys	Ile
450						455					460				
Val	Val	Cys	Asp	Arg	Gly	Val	Asn	Gly	Arg	Ala	Glu	Lys	Gly	Gln	Val
465					470				475						480
Val	Lys	Glu	Ser	Gly	Gly	Val	Ala	Met	Ile	Leu	Ala	Asn	Thr	Ala	Val
				485				490						495	
Asn	Met	Glu	Glu	Asp	Ser	Val	Asp	Val	His	Val	Leu	Pro	Ala	Thr	Leu
		500					505						510		
Ile	Gly	Phe	Asp	Glu	Ser	Ile	Gln	Leu	Gln	Ser	Tyr	Met	Asn	Ser	Thr
		515					520					525			
Arg	Lys	Pro	Thr	Ala	Arg	Ile	Ile	Phe	Gly	Gly	Thr	Val	Ile	Gly	Lys



530

535

540

Ser Ser Ala Pro Ala Val Ala Gln Phe Ser Ser Arg Gly Pro Ser Phe  
 545 550 555 560

Thr Asp Pro Ser Ile Leu Lys Pro Asp Val Ile Ala Pro Gly Val Asn  
 565 570 575

Ile Ile Ala Ala Trp Pro Gln Asn Leu Gly Pro Ser Gly Leu Ala Glu  
 580 585 590

Asp Ser Arg Arg Val Asn Phe Thr Val Leu Ser Gly Thr Ser Met Ala  
 595 600 605

Cys Pro His Val Ser Gly Ile Ala Ala Leu Leu His Ser Ile His Pro  
 610 615 620

Lys Trp Ser Pro Ala Ala Ile Lys Ser Ala Leu Met Thr Thr Ala Asp  
 625 630 635 640

Thr Thr Asn His Gln Gly Lys Pro Ile Met Asp Gly Asp Thr Arg Ala  
 645 650 655

Gly Leu Phe Ala Ile Gly Ala Gly His Val Asn Pro Gly Arg Ser Asp  
 660 665 670

Asp Pro Gly Leu Ile Tyr Asp Ile Asn Ala Asn Asp Tyr Ile Thr His  
 675 680 685

Leu Cys Thr Ile Gly Tyr Lys Asn Ser Glu Ile Leu Ser Ile Thr His  
 690 695 700

Lys Asn Val Ser Cys His Asp Val Leu Gln Lys Asn Arg Gly Phe Ser  
 705 710 715 720

Leu Asn Tyr Pro Ser Ile Ser Val Ile Phe Lys Ala Gly Lys Thr Arg  
 725 730 735

Lys Met Ile Thr Arg Arg Val Thr Asn Val Gly Ser Pro Asn Ser Ile  
 740 745 750

Tyr Ser Val Glu Ile Val Ala Pro Glu Gly Val Lys Val Arg Val Lys  
 755 760 765

Pro Arg Arg Leu Val Phe Lys His Val Asn Gln Ser Leu Ser Tyr Arg  
 770 775 780

Val Trp Phe Ile Ser Arg Lys Arg Ile Gly Thr Gln Arg Arg Ser Phe  
 785 790 795 800

Ala Glu Gly Gln Leu Met Trp Ile Asn Ser Arg Asp Lys Tyr Gln Lys  
 805 810 815

Val Arg Ser Pro Ile Ser Val Ala Trp Ala Ser Lys Lys  
 820 825

&lt;210&gt; 11

&lt;211&gt; 3140

&lt;212&gt; DNA

&lt;213&gt; Solanum tuberosum

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 <221> CDS  
 <222> (1)..(2298)

<400> 11

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1 5 10 15	
caa gct caa gat ttg caa act tac ata gtt cag tta cat cca cat gga	96
Gln Ala Gln Asp Leu Gln Thr Tyr Ile Val Gln Leu His Pro His Gly	
20 25 30	
gca aca aga ccc cct ttt agc tct aaa cta caa tgg cac ctt tct ttc	144
Ala Thr Arg Pro Pro Phe Ser Ser Lys Leu Gln Trp His Leu Ser Phe	
35 40 45	
ctt gca aaa gca gtt tcc tct gga gaa caa gac tcg tct tct cgt ctt	192
Leu Ala Lys Ala Val Ser Ser Gly Glu Gln Asp Ser Ser Ser Arg Leu	
50 55 60	
ttg tac tct tac cat tct gcg atg gaa ggt ttt gca gct cga ctc act	240
Leu Tyr Ser Tyr His Ser Ala Met Glu Gly Phe Ala Ala Arg Leu Thr	
65 70 75 80	
gaa gat gag gtt gag ttg tta agg gaa tct aat gat gtg ttg tcg ata	288
Glu Asp Glu Val Glu Leu Leu Arg Glu Ser Asn Asp Val Leu Ser Ile	
85 90 95	
cgt gct gag agg agg ctt gaa att cag act act tat tct tac aag ttc	336
Arg Ala Glu Arg Arg Leu Glu Ile Gln Thr Thr Tyr Ser Tyr Lys Phe	
100 105 110	
ttg gga tta agt cca acg aga gaa gga gct tgg ttg aag tct gga ttt	384
Leu Gly Leu Ser Pro Thr Arg Glu Gly Ala Trp Leu Lys Ser Gly Phe	
115 120 125	
ggt cga ggg gcg atc att gga gtg ttg gat act gga gtt tgg cca gaa	432
Gly Arg Gly Ala Ile Ile Gly Val Leu Asp Thr Gly Val Trp Pro Glu	
130 135 140	
agt cca agt ttt gat gat cat ggg atg cca cct gct cca cag aag tgg	480
Ser Pro Ser Phe Asp Asp His Gly Met Pro Pro Ala Pro Gln Lys Trp	
145 150 155 160	
agg ggt gtc tgc caa gga gga cag gat ttt aat tct tct agt tgt aat	528
Arg Gly Val Cys Gln Gly Gly Gln Asp Phe Asn Ser Ser Ser Cys Asn	
165 170 175	
cgc aag ctt att ggt gca agg ttt ttc aga aaa gga cat cgt gtg gct	576
Arg Lys Leu Ile Gly Ala Arg Phe Phe Arg Lys Gly His Arg Val Ala	
180 185 190	
tca atg aca tca tca cca gat gca gtg gag gaa tat gtg tcg cca cgg	624
Ser Met Thr Ser Ser Pro Asp Ala Val Glu Glu Tyr Val Ser Pro Arg	
195 200 205	
gat tcc cat ggc cat ggt aca cat aca gca tcc act gct gga gga gct	672
Asp Ser His Gly His Gly Thr His Thr Ala Ser Thr Ala Gly Gly Ala	
210 215 220	
gca gtt cca ttg gct ggt gtg ctc gga aat gga gca ggg gag gct cga	720
Ala Val Pro Leu Ala Gly Val Leu Gly Asn Gly Ala Gly Glu Ala Arg	

225	230	235	240	
ggg atg gcc ccg ggt gcc cac att gca ata tat aaa gta tgc tgg ttc				768
Gly Met Ala Pro Gly Ala His Ile Ala Ile Tyr Lys Val Cys Trp Phe	245	250	255	
agt ggt tgt tac agc tct gat ata ctt gca gca atg gat gtg gcc atc				816
Ser Gly Cys Tyr Ser Ser Asp Ile Leu Ala Ala Met Asp Val Ala Ile	260	265	270	
aga gat gga gta gac ata ttg tca ctc tca ctt ggt ggc ttc cct att				864
Arg Asp Gly Val Asp Ile Leu Ser Leu Ser Leu Gly Gly Phe Pro Ile	275	280	285	
cca ctt tat gat gat act att gcc att gga agt ttc cga gcc atg gag				912
Pro Leu Tyr Asp Asp Thr Ile Ala Ile Gly Ser Phe Arg Ala Met Glu	290	295	300	
cat gga att tca gtt ata tgt gct gca ggg aat aat gga cca atc caa				960
His Gly Ile Ser Val Ile Cys Ala Ala Gly Asn Asn Gly Pro Ile Gln	305	310	315	320
agt tca gta gcc aac ggt gct cct tgg att gcc act att ggt gct agc				1008
Ser Ser Val Ala Asn Gly Ala Pro Trp Ile Ala Thr Ile Gly Ala Ser	325	330	335	
aca ctt gac agg aga ttt cca gcg tca gtt cag tta ggc aac gga aag				1056
Thr Leu Asp Arg Arg Phe Pro Ala Ser Val Gln Leu Gly Asn Gly Lys	340	345	350	
ttc ctg tac gga gaa tcc ttg tac cct ggg aag aaa gtt cct agc tct				1104
Phe Leu Tyr Gly Glu Ser Leu Tyr Pro Gly Lys Lys Val Pro Ser Ser	355	360	365	
cag aag aat ctt gag atc gtt tat gta aag gat aag gac aag gga agt				1152
Gln Lys Asn Leu Glu Ile Val Tyr Val Lys Asp Lys Asp Lys Gly Ser	370	375	380	
gaa ttt tgc ttg aga gga tcg cta tca aaa gca caa gtc cga ggg aaa				1200
Glu Phe Cys Leu Arg Gly Ser Leu Ser Lys Ala Gln Val Arg Gly Lys	385	390	395	400
atg gtt gtg tgt gat agg gga gtc aat gga agg gca gaa aaa ggc cag				1248
Met Val Val Cys Asp Arg Gly Val Asn Gly Arg Ala Glu Lys Gly Gln	405	410	415	
gtt gtg aag gag gca ggt ggt gct gcc atg atc tta gca aat aca gca				1296
Val Val Lys Glu Ala Gly Gly Ala Ala Met Ile Leu Ala Asn Thr Ala	420	425	430	
ata aat atg gag gaa gat tcc att gat gtc cat gtc ctc cca gca acg				1344
Ile Asn Met Glu Glu Asp Ser Ile Asp Val His Val Leu Pro Ala Thr	435	440	445	
ttg att ggc ttc gat gaa tca att caa tta caa aac tac ctg aac tca				1392
Leu Ile Gly Phe Asp Glu Ser Ile Gln Leu Gln Asn Tyr Leu Asn Ser	450	455	460	
aca aaa aga cca aca gct cga ttc ata ttt gga gga acg gta ata gga				1440
Thr Lys Arg Pro Thr Ala Arg Phe Ile Phe Gly Gly Thr Val Ile Gly	465	470	475	480
aag tct aga gca cct gca gta gct cag ttt tcg tca agg ggg cca agc				1488

Lys	Ser	Arg	Ala	Pro	Ala	Val	Ala	Gln	Phe	Ser	Ser	Arg	Gly	Pro	Ser	
				485					490					495		
tat	act	gat	cct	tca	att	ctc	aaa	cct	gat	ttg	att	gct	cca	ggg	gta	1536
Tyr	Thr	Asp	Pro	Ser	Ile	Leu	Lys	Pro	Asp	Leu	Ile	Ala	Pro	Gly	Val	
			500					505					510			
aac	ata	att	gcc	gct	tgg	cca	caa	aac	tta	ggc	ccc	agt	ggg	ctt	ccc	1584
Asn	Ile	Ile	Ala	Ala	Trp	Pro	Gln	Asn	Leu	Gly	Pro	Ser	Gly	Leu	Pro	
			515				520					525				
gaa	gat	tca	cga	aga	gta	aat	ttc	act	gtt	atg	tca	ggg	acc	tca	atg	1632
Glu	Asp	Ser	Arg	Arg	Val	Asn	Phe	Thr	Val	Met	Ser	Gly	Thr	Ser	Met	
	530					535					540					
gca	tgt	cct	cat	gta	agt	gga	att	gcc	gca	ttg	ctc	cat	tca	gct	cat	1680
Ala	Cys	Pro	His	Val	Ser	Gly	Ile	Ala	Ala	Leu	Leu	His	Ser	Ala	His	
	545				550					555					560	
cct	aaa	tgg	act	cca	gca	gca	ata	aga	tcc	gca	tta	atg	acc	act	gca	1728
Pro	Lys	Trp	Thr	Pro	Ala	Ala	Ile	Arg	Ser	Ala	Leu	Met	Thr	Thr	Ala	
				565				570					575			
gat	aca	gct	gat	cat	atg	gga	aaa	cca	atc	atg	gat	gga	gat	gca	cca	1776
Asp	Thr	Ala	Asp	His	Met	Gly	Lys	Pro	Ile	Met	Asp	Gly	Asp	Ala	Pro	
			580					585					590			
gct	aaa	ctt	ttt	gca	gct	gga	gct	gga	cac	gtg	aac	cct	gga	aga	gcc	1824
Ala	Lys	Leu	Phe	Ala	Ala	Gly	Ala	Gly	His	Val	Asn	Pro	Gly	Arg	Ala	
		595				600						605				
atc	gat	cct	gga	ttg	ata	tat	gac	atc	cag	gtt	gat	gaa	tat	atc	act	1872
Ile	Asp	Pro	Gly	Leu	Ile	Tyr	Asp	Ile	Gln	Val	Asp	Glu	Tyr	Ile	Thr	
	610					615					620					
cat	ctt	tgc	act	atc	gga	tac	aga	aat	tct	gaa	gtc	ttc	agc	att	act	1920
His	Leu	Cys	Thr	Ile	Gly	Tyr	Arg	Asn	Ser	Glu	Val	Phe	Ser	Ile	Thr	
	625				630					635					640	
cat	agg	aat	gtc	agc	tgc	cat	gac	att	tta	cag	aac	aac	agg	ggg	ttc	1968
His	Arg	Asn	Val	Ser	Cys	His	Asp	Ile	Leu	Gln	Asn	Asn	Arg	Gly	Phe	
			645						650					655		
agc	cta	aat	tac	ccc	tca	att	tca	ata	act	ttc	aga	gca	gga	atg	act	2016
Ser	Leu	Asn	Tyr	Pro	Ser	Ile	Ser	Ile	Thr	Phe	Arg	Ala	Gly	Met	Thr	
			660					665					670			
aga	aag	ata	atc	aag	agg	aga	gta	aca	aat	gtg	ggg	aac	cct	aac	tct	2064
Arg	Lys	Ile	Ile	Lys	Arg	Arg	Val	Thr	Asn	Val	Gly	Asn	Pro	Asn	Ser	
		675					680					685				
att	tac	tca	gtt	gac	att	gag	gca	cct	gag	gga	gtc	aaa	gtg	aga	gtg	2112
Ile	Tyr	Ser	Val	Asp	Ile	Glu	Ala	Pro	Glu	Gly	Val	Lys	Val	Arg	Val	
	690					695					700					
aag	cca	cgt	cgt	ctg	ata	ttt	aaa	cat	gtg	aac	caa	agc	tta	agc	tat	2160
Lys	Pro	Arg	Arg	Leu	Ile	Phe	Lys	His	Val	Asn	Gln	Ser	Leu	Ser	Tyr	
	705				710				715						720	
aga	gtt	tgg	ttt	ata	tca	cga	aag	awa	ata	gag	tct	aaa	agg	atg	agc	2208
Arg	Val	Trp	Phe	Ile	Ser	Arg	Lys	Xaa	Ile	Glu	Ser	Lys	Arg	Met	Ser	
			725					730						735		

ttt gca gag ggg caa ttg aca tgg ttc aat gta gga aac aaa gcc acg 2256  
Phe Ala Glu Gly Gln Leu Thr Trp Phe Asn Val Gly Asn Lys Ala Thr  
740 745 750

aaa gtt aaa agt cct att tcc gtc aca tgg gca tca atg aag 2298  
Lys Val Lys Ser Pro Ile Ser Val Thr Trp Ala Ser Met Lys  
755 760 765

tgatcactat caccactatc acaagcacca tatatttcat tgtcttagtt caaaatttcc 2358

aattaggaat ttcacatcac attataaatt gatgttagag cagatacact ttatctttcc 2418

acaaagaaga aatgatcgat aatcattgaa atgatttgtg ttttactaag tagatgtgtc 2478

tccacaatgt taagaagtat taatatgtat aaatagatta gacaaagcac gagattgcgc 2538

ctgagtgagg nattttctca agtttacacc ttttgaacta aattactcat aaaccagtat 2598

gacagacaaa aaattcaaga aattggcgag gcaaaagaaa acatacaata taatctcaac 2658

ttttaacaaa ttgcaagcca tttgaattag cataccgctc cataaatctc atgaacctgt 2718

ccagtcctcg tggagtcgcg ataataact tagcttcaat tcctgcaggc ttccattaa 2778

caaacttagc attgacatca actgacgtta gaaccccttc ttcgtcaatc atgtagaatc 2838

cagtgatatc ccctacttca ccagatgaat caaatacggg gggttgatca aacctgaata 2898

tagccatacc atttgccat cccttgactt tggttaatttc acatctggta ttgtttgctc 2958

atcagttcct tgtatgaact gaatttttgg ttgaaccatc attatacata gtctggacat 3018

tttctggttt ttgataattgg tactgaaacg cgaacgggat aggcacaatc gttggccaat.3078

tgaatgaaga acctgcactt tgatgaacta tccttgatgc tattcctaca gtacatgaca 3138

Ca	3140
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 $\langle 210 \rangle \quad 12$ 

$\langle 211 \rangle$  766

<212> PRT

<213> Solanum tuberosum

<400> 12

Thr His Leu Phe Ser Phe Leu Cys Leu Leu Leu Cys Phe Val Cys Ile  
1 5 10 15

Gln Ala Gln Asp Leu Gln Thr Tyr Ile Val Gln Leu His Pro His Gly  
20 25 30

Ala Thr Arg Pro Pro Phe Ser Ser Lys Leu Gln Trp His Leu Ser Phe  
35 40 45

Leu Ala Lys Ala Val Ser Ser Gly Glu Gln Asp Ser Ser Ser Arg Leu  
50 55 60

Leu Tyr Ser Tyr His Ser Ala Met Glu Gly Phe Ala Ala Arg Leu Thr  
65 70 75 80

Glu Asp Glu Val      Glu Leu Leu Arg Glu Ser Asn Asp Val Leu Ser Ile  
                      85                     90                     95

Arg Ala Glu Arg Arg Leu Glu Ile Gln Thr Thr Tyr Ser Tyr Lys Phe  
 100 105 110  
 Leu Gly Leu Ser Pro Thr Arg Glu Gly Ala Trp Leu Lys Ser Gly Phe  
 115 120 125  
 Gly Arg Gly Ala Ile Ile Gly Val Leu Asp Thr Gly Val Trp Pro Glu  
 130 135 140  
 Ser Pro Ser Phe Asp Asp His Gly Met Pro Pro Ala Pro Gln Lys Trp  
 145 150 155 160  
 Arg Gly Val Cys Gln Gly Gly Gln Asp Phe Asn Ser Ser Ser Cys Asn  
 165 170 175  
 Arg Lys Leu Ile Gly Ala Arg Phe Phe Arg Lys Gly His Arg Val Ala  
 180 185 190  
 Ser Met Thr Ser Ser Pro Asp Ala Val Glu Glu Tyr Val Ser Pro Arg  
 195 200 205  
 Asp Ser His Gly His Gly Thr His Thr Ala Ser Thr Ala Gly Gly Ala  
 210 215 220  
 Ala Val Pro Leu Ala Gly Val Leu Gly Asn Gly Ala Gly Glu Ala Arg  
 225 230 235 240  
 Gly Met Ala Pro Gly Ala His Ile Ala Ile Tyr Lys Val Cys Trp Phe  
 245 250 255  
 Ser Gly Cys Tyr Ser Ser Asp Ile Leu Ala Ala Met Asp Val Ala Ile  
 260 265 270  
 Arg Asp Gly Val Asp Ile Leu Ser Leu Ser Leu Gly Gly Phe Pro Ile  
 275 280 285  
 Pro Leu Tyr Asp Asp Thr Ile Ala Ile Gly Ser Phe Arg Ala Met Glu  
 290 295 300  
 His Gly Ile Ser Val Ile Cys Ala Ala Gly Asn Asn Gly Pro Ile Gln  
 305 310 315 320  
 Ser Ser Val Ala Asn Gly Ala Pro Trp Ile Ala Thr Ile Gly Ala Ser  
 325 330 335  
 Thr Leu Asp Arg Arg Phe Pro Ala Ser Val Gln Leu Gly Asn Gly Lys  
 340 345 350  
 Phe Leu Tyr Gly Glu Ser Leu Tyr Pro Gly Lys Lys Val Pro Ser Ser  
 355 360 365  
 Gln Lys Asn Leu Glu Ile Val Tyr Val Lys Asp Lys Asp Lys Gly Ser  
 370 375 380  
 Glu Phe Cys Leu Arg Gly Ser Leu Ser Lys Ala Gln Val Arg Gly Lys  
 385 390 395 400  
 Met Val Val Cys Asp Arg Gly Val Asn Gly Arg Ala Glu Lys Gly Gln  
 405 410 415  
 Val Val Lys Glu Ala Gly Gly Ala Ala Met Ile Leu Ala Asn Thr Ala  
 420 425 430

Ile Asn Met Glu Glu Asp Ser Ile Asp Val His Val Leu Pro Ala Thr  
 435 440 445  
 Leu Ile Gly Phe Asp Glu Ser Ile Gln Leu Gln Asn Tyr Leu Asn Ser  
 450 455 460  
 Thr Lys Arg Pro Thr Ala Arg Phe Ile Phe Gly Gly Thr Val Ile Gly  
 465 470 475 480  
 Lys Ser Arg Ala Pro Ala Val Ala Gln Phe Ser Ser Arg Gly Pro Ser  
 485 490 495  
 Tyr Thr Asp Pro Ser Ile Leu Lys Pro Asp Leu Ile Ala Pro Gly Val  
 500 505 510  
 Asn Ile Ile Ala Ala Trp Pro Gln Asn Leu Gly Pro Ser Gly Leu Pro  
 515 520 525  
 Glu Asp Ser Arg Arg Val Asn Phe Thr Val Met Ser Gly Thr Ser Met  
 530 535 540  
 Ala Cys Pro His Val Ser Gly Ile Ala Ala Leu Leu His Ser Ala His  
 545 550 555 560  
 Pro Lys Trp Thr Pro Ala Ala Ile Arg Ser Ala Leu Met Thr Thr Ala  
 565 570 575  
 Asp Thr Ala Asp His Met Gly Lys Pro Ile Met Asp Gly Asp Ala Pro  
 580 585 590  
 Ala Lys Leu Phe Ala Ala Gly Ala Gly His Val Asn Pro Gly Arg Ala  
 595 600 605  
 Ile Asp Pro Gly Leu Ile Tyr Asp Ile Gln Val Asp Glu Tyr Ile Thr  
 610 615 620  
 His Leu Cys Thr Ile Gly Tyr Arg Asn Ser Glu Val Phe Ser Ile Thr  
 625 630 635 640  
 His Arg Asn Val Ser Cys His Asp Ile Leu Gln Asn Asn Arg Gly Phe  
 645 650 655  
 Ser Leu Asn Tyr Pro Ser Ile Ser Ile Thr Phe Arg Ala Gly Met Thr  
 660 665 670  
 Arg Lys Ile Ile Lys Arg Arg Val Thr Asn Val Gly Asn Pro Asn Ser  
 675 680 685  
 Ile Tyr Ser Val Asp Ile Glu Ala Pro Glu Gly Val Lys Val Arg Val  
 690 695 700  
 Lys Pro Arg Arg Leu Ile Phe Lys His Val Asn Gln Ser Leu Ser Tyr  
 705 710 715 720  
 Arg Val Trp Phe Ile Ser Arg Lys Xaa Ile Glu Ser Lys Arg Met Ser  
 725 730 735  
 Phe Ala Glu Gly Gln Leu Thr Trp Phe Asn Val Gly Asn Lys Ala Thr  
 740 745 750  
 Lys Val Lys Ser Pro Ile Ser Val Thr Trp Ala Ser Met Lys  
 755 760 765

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 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: artificial  
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<400> 13  
 Gln Thr Tyr Ile Val  
 1 5

<210> 14  
 <211> 5  
 <212> PRT  
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<220>  
 <223> Description of Artificial Sequence: artificial  
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<400> 14  
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 1 5

<210> 15  
 <211> 5  
 <212> PRT  
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<220>  
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<400> 15  
 Ser Ser Arg Leu Leu  
 1 5

<210> 16  
 <211> 5  
 <212> PRT  
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<220>  
 <223> Description of Artificial Sequence: artificial  
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<400> 16  
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 1 5

<210> 17



<211> 5  
 <212> PRT  
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<220>

<223> Description of Artificial Sequence: artificial  
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<400> 17

Ser Ser Ser Cys Asn  
 1 5

<210> 18

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificial  
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<400> 18

Val Leu Gly Asn Gly  
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<210> 19

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificial  
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<400> 19

Gly Ala His Ile Ala  
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<210> 20

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificial  
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<400> 20

Phe Arg Ala Met Glu  
 1 5

<210> 21

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificial  
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<400> 21

Val Ile Cys Ala Ala

1 5

<210> 22

<211> 5

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: artificial  
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<400> 22

Ala Ala Gly Asn Asn

1 5

<210> 23

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificial  
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<400> 23

Ser Ser Val Ala Asn

1 5

<210> 24

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificial  
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<400> 24

Tyr Gly Glu Ser Leu

1 5

<210> 25

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificial

## sequence

&lt;400&gt; 25

Gly Ser Glu Phe Cys  
1 5

&lt;210&gt; 26

&lt;211&gt; 5

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: artificial  
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&lt;400&gt; 26

Cys Leu Arg Gly Ser  
1 5

&lt;210&gt; 27

&lt;211&gt; 5

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: artificial  
sequence

&lt;400&gt; 27

Arg Gly Val Asn Gly  
1 5

&lt;210&gt; 28

&lt;211&gt; 6

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: artificial  
sequence

&lt;400&gt; 28

Pro Ala Thr Leu Ile Gly  
1 5

&lt;210&gt; 29

&lt;211&gt; 5

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: artificial  
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&lt;400&gt; 29

Ile Phe Gly Gly Thr  
1 5

<210> 30

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificial  
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<400> 30

Pro Gln Asn Leu Gly  
1 5

<210> 31

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificial  
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<400> 31

Val Asn Phe Thr Val  
1 5

<210> 32

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificial  
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<400> 32

His Val Ser Gly Ile  
1 5

<210> 33

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificial  
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<400> 33

Gly Phe Ser Leu Asn  
1 5

<210> 34  
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<220>  
 <223> Description of Artificial Sequence: artificial  
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<400> 34  
 Arg Arg Val Thr Asn  
 1 5

<210> 35  
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 <212> PRT  
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<220>  
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<400> 35  
 Pro Asn Ser Ile Tyr  
 1 5

<210> 36  
 <211> 5  
 <212> PRT  
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<220>  
 <223> Description of Artificial Sequence: artificial  
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<400> 36  
 Leu Ser Tyr Arg Val  
 1 5

<210> 37  
 <211> 5  
 <212> PRT  
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<220>  
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<400> 37  
 Ser Pro Ile Ser Val  
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<210> 38

<211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: artificial  
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<400> 38  
 Val Ile Cys Ala Ala  
 1 5

<210> 39  
 <211> 5  
 <212> PRT  
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<220>  
 <223> Description of Artificial Sequence: artificial  
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<400> 39  
 Cys Ala Ala Gly Asn  
 1 5

<210> 40  
 <211> 5  
 <212> PRT  
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<220>  
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<400> 40  
 Ala Ala Gly Asn Asn  
 1 5

<210> 41  
 <211> 9  
 <212> PRT  
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<220>  
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<400> 41  
 Val Ile Cys Ala Ala Gly Asn Asn Gly  
 1 5

<210> 42  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificial  
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<400> 42

Ile Ile Gly Val Leu

1 5

<210> 43

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificial  
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<400> 43

Gly Val Leu Asp Thr

1 5

<210> 44

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificial  
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<400> 44

Thr His Thr Ala Ser Thr

1 5

<210> 45

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificial  
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<400> 45

Ser Arg Asp Ser

1

<210> 46

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificial

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&lt;400&gt; 46

Arg Asp Ser Gly

1

&lt;210&gt; 47

&lt;211&gt; 5

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: artificial  
sequence

&lt;400&gt; 47

His Val Ser Gly Ile

1

5

&lt;210&gt; 48

&lt;211&gt; 6

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: artificial  
sequence

&lt;400&gt; 48

Phe Thr Val Ser Gly Thr

1

5

&lt;210&gt; 49

&lt;211&gt; 5

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: artificial  
sequence

&lt;400&gt; 49

Ser Tyr His Ser Ala

1

5

&lt;210&gt; 50

&lt;211&gt; 5

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: artificial  
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&lt;400&gt; 50



Gly Leu Ser Pro Thr  
1 5

<210> 51  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: artificial  
sequence

<400> 51

Trp Leu Lys Ser Gly  
1 5

<210> 52  
<211> 5  
<212> PRT  
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<220>

<223> Description of Artificial Sequence: artificial  
sequence

<400> 52

Phe Asn Ser Ser Ser  
1 5

<210> 53  
<211> 5  
<212> PRT  
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<220>

<223> Description of Artificial Sequence: artificial  
sequence

<400> 53

Ala Ser Thr Ala Gly  
1 5

<210> 54  
<211> 5  
<212> PRT  
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<220>

<223> Description of Artificial Sequence: artificial  
sequence

<400> 54

Ala Ala Met Asp Val  
1 5

<210> 55  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: artificial  
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<400> 55  
 Trp Ile Ala Thr Ile  
 1 5

<210> 56  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: artificial  
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<400> 56  
 Gly Pro Ser Gly Leu  
 1 5

<210> 57  
 <211> 6  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: artificial  
 sequence

<400> 57  
 Ile Ala Ala Leu Leu His  
 1 5

<210> 58  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: artificial  
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<400> 58  
 Lys Pro Ile Met Asp  
 1 5

<210> 59

<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: artificial  
sequence

<400> 59  
Val Ser Cys His Asp  
1 5

<210> 60  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: artificial  
sequence

<400> 60  
Tyr Pro Ser Ile Ser  
1 5

<210> 61  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: artificial  
sequence

<400> 61  
Ser Leu Ser Tyr Arg  
1 5